LISTING OF CLAIMS

1. (Previously Presented) A composite material heat controller for an object, the composite material heat controller comprising:

a base material that radiates a larger amount of heat at a high-temperature relative to that of the heat radiated at a low-temperature, the base material having a surface adapted to thermally contact a surface of said object; and

a phase-change substance overlying said base material having insulation properties at the high-temperature, metallic properties at the low-temperature, radiating a larger amount of heat at the high-temperature relative to a smaller amount of heat radiated at the low-temperature, and having a high reflectivity in the thermal infrared light region at the low-temperature;

wherein said phase-change substance comprises a thickness in the range from about one to about thirty microns.

2. (Canceled).

3. (Previously Presented) The composite material heat controller according to claim 1, wherein said base material comprises a thickness greater than a thickness of said phase-change substance.

4. (Previously Presented) The composite material heat controller according to claim 1, wherein said phase-change substance is a perovskite oxide.

5. (Previously Presented) The composite material heat controller according to claim 4, wherein said phase-change substance 1 is perovskite Mn oxide.

6. (Previously Presented) The composite material heat controller according to claim 1, wherein said base material comprises a thickness in the range from 10 to 100 μm.

7. (Previously Presented) The composite material heat controller according to claim 1, wherein said base material is selected from a group consisting of silicone, alumina, and partially stabilized-zirconia.

8. (Previously Presented) The composite material heat controller according to claim 1, wherein a reflective plate or reflective film each having reflectivity with respect to visible light is laminated onto said phase-change substance on a side opposite from a side on which said base material is laminated.

9. (Previously Presented) The composite material heat controller according to claim 1, wherein said surface of said base material of said composite material heat controller is affixed to the surface of the object either directly or via an intervening heat-conductive substance.

10. (Previously Presented) The composite material heat controller according to claim 9, wherein said composite material heat controller is thermally joined to said object, via an appropriate intervening adhesive.

11. (Previously Presented) The composite material heat controller according to claim 1, wherein said object comprises a non-flat surface.

12. (Previously Presented) The composite material heat controller according to claim 1, wherein said object includes an electronic circuit used in a space vehicle, including a man-made satellite and a spaceship.

13. (Previously Presented) A method for controlling heat in an object comprising:

providing a base material that radiates a larger amount of heat at a high-temperature relative to that of the heat radiated at a low-temperature, the base material having at least a first surface and a second surface;

attaching a phase-change substance on said first surface of said base material, said phase-changing substance having insulation properties at the high-temperature, metallic properties at the low-temperature, radiating a larger amount of heat at the high-

temperature relative to a smaller amount of heat radiated at the low-temperature, and having a high reflectivity in the thermal infrared region at the low-temperature phase and comprising a thickness in the range from about one to about thirty microns; and

attaching said second surface of said base material to said object.

14. (Previously Presented) The method for controlling heat according to claim 13, wherein said base material comprises a thickness greater than a thickness of said phase-change substance.

15. (Previously Presented) The method for controlling heat according to claim 13, wherein said phase-change substance is a perovskite oxide.

16. (Previously Presented) The method for controlling heat according to claim 15, wherein said phase-change substance is perovskite Mn oxide.

17. (Previously Presented) The method for controlling heat according to claim 13, wherein said base material is selected from a group consisting of silicone, alumina and partially stabilized-zirconia.

18. (Previously Presented) The method for controlling heat according to claim 13, wherein either one of a reflective plate and a reflective film having reflectivity with respect to visible light is laminated onto said phase-change substance on a side opposite from a side attached to said first surface of said base material.

19. (Previously Presented) The method for controlling heat according to claim 13, wherein said composite material is attached to a surface of said object, either directly or via an intervening heat-conductive substance.

20. (Previously Presented) The method for controlling heat according to claim 13, wherein said object includes an electronic circuit used in a space vehicle, including a man-made satellite and a spaceship.